



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,227	06/16/2000	MINGMING FANG	99154X204201	2766

29050 7590 08/06/2003

PHYLLIS T. TURNER-BRIM, ESQ., LAW DEPARTMENT  
CABOT MICROELECTRONICS CORPORATION  
870 NORTH COMMONS DRIVE  
AURORA, IL 60504

EXAMINER

SHAKERI, HADI

ART UNIT PAPER NUMBER

3723

DATE MAILED: 08/06/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 17

Application Number: 09/595,227  
Filing Date: June 16, 2000  
Appellant(s): FANG ET AL.

**MAILED**  
**AUG 06 2003**  
**GROUP 3700**

---

John Kilyk, Jr.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed July 23, 2003

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The

Art Unit: 3723

Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because Appellant fails to provide any reasons why rejections of claims 15 and 16 were not valid as a separate group or separately patentable, rather argues that "However, Ishitobi et al. does not supply the missing teachings of Huynh et al. and James et al., which have been discussed above with respect to the rejection of claims 1-14 and 17-23." Appellant is relaying on the arguments for the rejection of parent claim 1, thus, a decision whether the rejection of parent claim over Huynh et al. and James et al., is affirmed or reversed would affirm or reverse the rejection of claims 15 and 16 due to lack of arguments otherwise.

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

Art Unit: 3723

**(9) Prior Art of Record**

6,190,237	HUYNH ET AL.	02-2001
6,069,080	JAMES ET AL.	05-2000
6,152,976	ISHITOBIE ET AL.	11-2000

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-12 and 17-23 are rejected under 35 U.S.C. 103 (a). This rejection is set forth in prior Office Action, Paper No. 12.

**(11) Response to Argument**

In response to Appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case (James et al. modified in view of Huynh et al.), James et al. discloses a polishing system comprising a fixed abrasive pad and a polishing fluid and contrary to Appellant's opinion a polishing fluid "preferably water based", "may comprise polishing particles" and "preferably comprises a pH modifier" as considered by the Examiner discloses embodiments wherein the polishing fluid is water based comprising polishing particles and pH modifier, thus disclosing all the elements of claim 1 as recited except for 0.04 M or higher phosphate or phosphoric ion. Huynh et al. specifically teaches, e.g., in first paragraph of summary of invention, that the slurry as taught by Huynh et al. provides resistant to pH changes resulting from contamination which would adversely affect the polishing performance. Regarding

Art Unit: 3723

the argument that "disclosure of James et al., when taken as whole, provides a nexus for the application of any semiconductor polishing system to the distinct art of polishing memory disk substrate", it is noted that the Examiner is not taking that position only that James et al. discloses that part of claim limitations. In response to the argument that there is no teaching to suggest which of the optional components to include and in what amount, it is noted again that the component and the amount claimed is disclosed and the embodiments comprising phosphate, e.g.,  $10^{-1}$  M (within the range listed) which would depend on the intended use, workpiece and/or operational parameters would meet the claims limitations. And the evidence to select the polishing composition of Huynh et al. is within the disclosure of Huynh et al., i.e., to resist pH changes. In fact James et al. discloses recycling the polishing fluid and takes measures to insure the correct level of pH of the polishing fluid for use, providing yet further motivation to utilize the teaching of Huynh et al., i.e., pH modifier resisting changes.

Regarding the combination of Huynh et al. with James et al., and the motivation to combine, it is noted that Huynh et al. discloses the slurry compositions for polishing surfaces with particular applications in "microelectronics" and despite the Appellant's argument it is not limited to semiconductors on the contrary it discloses that in addition to microelectronics, it can also be used for other substrate, col. 1, lines 8 and 9. The only limitations disclosed, is that it is intended for chemical mechanical polishing, CMP, and the examples used are for polishing metal surfaces that are oxidized, col. 1, lines 5-20 (suggesting the application for a memory disk, which typically uses aluminum alloy disc blank with a nickel-phosphorus surface coating). James et al. is utilized to illustrate that CMP systems are used for memory disks as well as semiconductors. Microelectronics clearly, in Examiner's opinion and as apparently concurred by the Appellant, encompasses semiconductors, however, James et al. is further reinforces the applicability of the composition to memory disks by disclosing the interchangeability of a CMP

Art Unit: 3723

system in polishing substrates. Examiner is aware of the appellant position distinguishing between these systems, however does not agree with the Appellant that Huynh et al. by disclosing the invention to be applicable to microelectronics, is not applicable to memory disk. Appellant cited several U.S. Patents to illustrate the point that slurries disclosing some of the claimed invention are known, similarly, the Examiner cites U.S. Patent 6,431,953 (emphasizing that it is not used for rejection of claims only as evidentiary reference in response to Appellant argument that Huynh et al. may not be applied to a CMP system in a method of planarizing a memory disk) issued on August 2002, to the same assignee of the present invention, Cabot Microelectronics Corporation, stating in col. 4, lines 41-47:

“The method of the invention is preferably used in the polishing of semiconductor substrate; however, the invention can be used in conjunction with the chemical mechanical polishing of any suitable substrate, particularly any microelectronic devices. Such microelectronics devices include field emission devices, rigid memory disks, magnetic heads, and other similar items.” [emphasis added]

In response to arguments under the heading (b) that there is no reasonable expectation of success, it is noted that phosphates are listed and the range of the amount used, i.e., greater than 0.4 M is also met by the disclosure of the range, as noted by the Appellant, 0.01-0.1 M, thus meeting the claim invention, however it is also noted it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

In response to arguments under the heading (c) that all the claim limitations are not met, Appellant does not argue against the references combined, except for the argument as stated above that the combinations lack motivation and for the reasonable expectation of success. In response to Appellant's arguments against the references individually, one cannot show

Art Unit: 3723

nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to the arguments against the rejections of claims 15 and 16, Appellant argues that the missing teachings of the rejections of claims 1-14 and 17-23 is not remedied by Ishitobi et al., however, as noted above the combinations of Huynh et al. and James et al. meets the limitations of claims 1-14 and 17-23, accordingly, per Appellant's argument, the Office has met its burden to support the Section 103(a) rejection of claims 15 and 16.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Hadi Shakeri  
Patent Examiner  
Art Unit 3723

HS

July 31, 2003

Conferees

Joseph J. Hail, III



Joseph J. Hail, III  
Supervisory Patent Examiner  
Technology Center 3700

Allan N. Shoap



PHYLLIS T. TURNER-BRIM, ESQ., LAW DEPARTMENT  
CABOT MICROELECTRONICS CORPORATION  
870 NORTH COMMONS DRIVE  
AURORA, IL 60504